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January 9, 1997

Mr. David Domingo  
EPA Project Coordinator  
U.S. EPA  
1200 Sixth Avenue, M/S HW-106  
Seattle, WA 98101

Mr. Domingo:

Following is the Bimonthly Progress Report required by the 3008(h) Order for RFI activities completed at the Burlington Environmental Inc. (dba Philip Environmental) "Philip" Pier 91 Facility for the months of November and December 1996.

Description of Work Completed

- Submitted fourth quarter 1996 groundwater monitoring data (enclosed).
- Met with Ecology to discuss site logs for chargeable oversight completed to date.

Summary of All Findings

- No significant findings occurred during this period.

Projected Work for Next Reporting Period

- Complete first quarter 1997 groundwater sampling and water/product levels in January.
- Submit first quarter 1997 groundwater monitoring data.
- Receive draft MTCA Order from Ecology.

If you have any questions, please contact me at (206) 227-6121.

Respectfully,

John Stiller  
Project Coordinator

cc: Galen Tritt, Ecology NWRO





**VOCs in Groundwater**  
**4th Quarter 1996**  
**Pier 91 Facility**

<i>CAS Number</i>		75-71-8	74-87-3	75-01-4	74-83-9	75-00-3	75-69-4	76-13-1	67-64-1	75-15-0
<i>MTCA Method B (ug/l)</i>		1600	3.37	0.023	11.2	PQL = 10	2400	480000	800	800
<i>Well Number</i>	<i>Sample Date</i>	<i>Dichloro- difluoro- methane (ug/l)</i>	<i>Chloro- methane (ug/l)</i>	<i>Vinyl chloride (ug/l)</i>	<i>Bromo- methane (ug/l)</i>	<i>Chloro- ethane (ug/l)</i>	<i>Trichloro- fluoro- methane (ug/l)</i>	<i>1,1,2-trichloro- 1,2,2-trifluoro- ethane (ug/l)</i>	<i>Acetone (ug/l)</i>	<i>Carbon disulfide (ug/l)</i>
CP-103A	10/11/96	<1	<1	<1	<1	<1	<1	<5	<5	<1
CP-103B	10/15/96	<1	<1	<1	<1	<1	<1	<5	<5	<1
CP-104A	10/15/96	1.8	<1	1.8	<1	<1	<1	<5	<5	<1
CP-104B	10/15/96	<1	<1	<1	<1	<1	<1	<5	<5	<1
CP-106A	10/10/96	<1	<1	<1	<1	<1	<1	<5	<5	<1
CP-106B	10/10/96	<1	<1	<1	<1	<1	<1	<5	<5	<1
CP-107	10/15/96	2	<1	1.8	<1	<1	<1	<5	<5	<1
CP-108A	10/11/96	<1	<1	<1	<1	<1	<1	<5	<5	<1
CP-108B	10/11/96	<1	<1	<1	<1	<1	<1	<5	<5	<1
CP-109	10/8/96	<1	<1	<1	<1	27	<1	<5	<5	<1
CP-110	10/8/96	<1	<1	<1	<1	12	<1	<5	<5	3.7
CP-111	10/11/96	<1	<1	<1	<1	<1	<1	<5	18	<1
CP-112	10/9/96	<1	<1	<1	<1	<1	<1	<5	<5	<1
CP-113	10/9/96	<1	<1	<1	<1	<1	<1	<5	<5	<1
CP-114	10/11/96	<1	<1	<1	<1	<1	<1	<5	<5	<1
CP-115A	10/15/96	<1	<1	<1	<1	<1	<1	<5	<5	<1
CP-115B	10/15/96	<1	<1	<1	<1	<1	<1	<5	<5	<1
CP-116	10/9/96	<1	<1	<1	<1	<1	<1	<5	<5	<1
CP-117	10/9/96	<5	<5	21	<5	160	<5	<25	<25	<5
CP-118	10/8/96	<1	<1	<1	<1	7.4	<1	<5	<5	4.6
CP-119	10/10/96	<1	<1	<1	<1	<1	<1	<5	<5	<1
CP-121	10/11/96	<1	<1	<1	<1	9.2	<1	<5	<5	<1
CP-122B	10/10/96	<1	<1	<1	<1	<1	<1	<5	<5	<1
CP-205A	10/10/96	<1	<1	<1	<1	<1	<1	<5	<5	<1
CP-205B	10/10/96	<1	<1	<1	<1	<1	<1	<5	<5	<1
W-10	10/15/96	<1	<1	<1	<1	<1	<1	<5	<5	<1



**Total Petroleum Hydrocarbons in Groundwater**  
**4th Quarter 1996**  
**Pier 91 Facility**

<i>CAS Number</i>		<i>68334-30-5</i>	<i>86290-81-5</i>
<i>MTCA Method A (ug/l)</i>		<i>1000</i>	<i>1000</i>
		<i>TPH as</i>	<i>TPH as</i>
		<i>Diesel</i>	<i>Gasoline</i>
<i>Well Number</i>	<i>Sample Date</i>	<i>(mg/l)</i>	<i>(mg/l)</i>
CP-103A	10/11/96	<0.3	<1
CP-103B	10/15/96	<0.3	<0.62
CP-104A	10/15/96	<0.3	<0.62
CP-104B	10/15/96	<0.3	<0.62
CP-106A	10/10/96	<0.3	<0.62
CP-106B	10/10/96	<0.3	<0.62
CP-107	10/15/96	<0.3	<1
CP-108A	10/11/96	<0.3	<0.62
CP-108B	10/11/96	<0.3	<0.62
CP-109	10/8/96	<0.3	1.1
CP-110	10/8/96	<0.3	<1
CP-111	10/11/96	<0.3	<0.62
CP-112	10/9/96	<0.3	<0.62
CP-113	10/9/96	<0.3	<0.62
CP-114	10/11/96	<0.3	<0.62
CP-115A	10/15/96	<0.3	<0.62
CP-115B	10/15/96	<0.3	<0.62
CP-116	10/9/96	<0.3	<0.62
CP-117	10/9/96	<0.3	8.9
CP-118	10/8/96	<0.3	<1
CP-119	10/10/96	<0.3	<0.62
CP-121	10/11/96	<0.3	<0.62
CP-122B	10/10/96	<0.3	<0.62
CP-205A	10/10/96	<0.3	<0.62
CP-205B	10/10/96	<0.3	<0.62
W-10	10/15/96	<0.3	<1



**VOCs in Groundwater**  
**4th Quarter 1996**  
**Pier 91 Facility**

CAS Number MTCA Method B (ug/l)		75-09-2	156-60-5	75-34-3	108-05-4	156-59-2	78-93-3	67-66-3	71-55-6	56-23-5
		5.83	160	800	8000	80	4800	7.17	7200	0.337
Well Number	Sample Date	Methylene chloride (ug/l)	trans-1,2- DCE (ug/l)	1,1-DCA (ug/l)	Vinyl acetate (ug/l)	cis-1,2- DCE (ug/l)	2-Butanone (ug/l)	Chloroform (ug/l)	1,1,1-TCA (ug/l)	Carbon tetra- chloride (ug/l)
CP-103A	10/11/96	<5	<1	<1	<1	<1	<5	<1	<1	<1
CP-103B	10/15/96	<5	<1	<1	<1	<1	<5	<1	<1	<1
CP-104A	10/15/96	<5	<1	1.8	<1	<1	<5	<1	<1	<1
CP-104B	10/15/96	<5	<1	4.9	<1	<1	<5	<1	<1	<1
CP-106A	10/10/96	<5	<1	<1	<1	<1	<5	1.5	<1	<1
CP-106B	10/10/96	<5	<1	<1	<1	<1	<5	<1	<1	<1
CP-107	10/15/96	<5	<1	1.6	<1	1.4	<5	<1	<1	<1
CP-108A	10/11/96	<5	<1	<1	<1	<1	<5	<1	<1	<1
CP-108B	10/11/96	<5	<1	<1	<1	<1	<5	<1	<1	<1
CP-109	10/8/96	<5	<1	<1	<1	<1	<5	<1	<1	<1
CP-110	10/8/96	<5	<1	<1	<1	<1	<5	<1	<1	<1
CP-111	10/11/96	<5	<1	<1	<1	<1	10	<1	<1	<1
CP-112	10/9/96	1200	<1	1	<1	<1	<5	<1	<1	<1
CP-113	10/9/96	<5	<1	<1	<1	<1	<5	<1	<1	<1
CP-114	10/11/96	<5	<1	<1	<1	<1	<5	<1	<1	<1
CP-115A	10/15/96	<5	<1	<1	<1	<1	<5	<1	<1	<1
CP-115B	10/15/96	<5	<1	<1	<1	<1	<5	<1	<1	<1
CP-116	10/9/96	<5	<1	5.5	<1	1	<5	<1	<1	<1
CP-117	10/9/96	<25	<5	67	<5	73	<25	19	<5	<5
CP-118	10/8/96	<5	<1	<1	<1	<1	<5	<1	<1	<1
CP-119	10/10/96	<5	<1	<1	<1	<1	<5	<1	<1	<1
CP-121	10/11/96	<5	<1	<1	<1	<1	<5	<1	<1	<1
CP-122B	10/10/96	<5	<1	<1	<1	<1	<5	<1	<1	<1
CP-205A	10/10/96	<5	<1	<1	<1	<1	<5	<1	<1	<1
CP-205B	10/10/96	<5	<1	<1	<1	<1	<5	<1	<1	<1
W-10	10/15/96	<5	<1	<1	<1	<1	<5	<1	<1	<1



**VOCs in Groundwater  
4th Quarter 1996  
Pier 91 Facility**

<b>CAS Number MTCA Method B (ug/l)</b>		<b>107-06-2</b>	<b>71-43-2</b>	<b>79-01-6</b>	<b>78-87-5</b>	<b>75-27-4</b>	<b>110-75-8</b>	<b>10061-01-5</b>	<b>108-10-1</b>	<b>108-88-3</b>
		0.481	1.51	3.98	0.643	0.706	PQL = 10	PQL = 5	400	1600
					<b>1,2- Dichloro propane</b>	<b>Bromo- dichloro methane</b>	<b>2-Chloro- ethyl-vinyl ether</b>	<b>cis-1,3- Dichloro- propene</b>	<b>4-Methyl-2- pentanone</b>	<b>Toluene</b>
<b>Well Number</b>	<b>Sample Date</b>	<b>1,2-DCA (ug/l)</b>	<b>Benzene (ug/l)</b>	<b>TCE (ug/l)</b>	<b>(ug/l)</b>	<b>(ug/l)</b>	<b>(ug/l)</b>	<b>(ug/l)</b>	<b>(ug/l)</b>	<b>(ug/l)</b>
CP-103A	10/11/96	<1	<1	<2	<1	<1	<1	<1	<5	<2
CP-103B	10/15/96	<1	<1	<2	<1	<1	<1	<1	<5	<2
CP-104A	10/15/96	<1	<1	<2	<1	<1	<1	<1	<5	2.9
CP-104B	10/15/96	<1	<1	<2	<1	<1	<1	<1	<5	<2
CP-106A	10/10/96	<1	<1	<2	<1	<1	<1	<1	<5	<2
CP-106B	10/10/96	<1	<1	<2	<1	<1	<1	<1	<5	<2
CP-107	10/15/96	<1	<1	<2	<1	<1	<1	<1	<5	<2
CP-108A	10/11/96	<1	<1	<2	<1	<1	<1	<1	<5	<2
CP-108B	10/11/96	<1	<1	<2	<1	<1	<1	<1	<5	<2
CP-109	10/8/96	<1	34	<2	<1	<1	<1	<1	<5	21
CP-110	10/8/96	<1	<1	<2	<1	<1	<1	<1	<5	<2
CP-111	10/11/96	<1	<1	<2	<1	<1	<1	<1	<5	<2
CP-112	10/9/96	<1	<1	<2	<1	<1	<1	<1	<5	4.1
CP-113	10/9/96	<1	<1	<2	<1	<1	<1	<1	<5	5.8
CP-114	10/11/96	<1	<1	<2	<1	<1	<1	<1	<5	<2
CP-115A	10/15/96	<1	<1	<2	<1	<1	<1	<1	<5	<2
CP-115B	10/15/96	<1	<1	<2	<1	<1	<1	<1	<5	10
CP-116	10/9/96	<1	21	<2	<1	<1	<1	<1	<5	2.3
CP-117	10/9/96	<5	36	<10	<5	<5	<5	<5	<25	7400
CP-118	10/8/96	<1	20	<2	<1	<1	<1	<1	<5	<2
CP-119	10/10/96	<1	<1	<2	<1	<1	<1	<1	<5	<2
CP-121	10/11/96	<1	<1	<2	<1	<1	<1	<1	<5	<2
CP-122B	10/10/96	<1	<1	<2	<1	<1	<1	<1	<5	<2
CP-205A	10/10/96	<1	<1	<2	<1	<1	<1	<1	<5	<2
CP-205B	10/10/96	<1	<1	<2	<1	<1	<1	<1	<5	8.7
W-10	10/15/96	<1	8.7	<2	<1	<1	<1	<1	<5	2.7



**VOCs in Groundwater**  
**4th Quarter 1996**  
**Pier 91 Facility**

CAS Number MTCA Method B (ug/l)		10061-02-6 PQL = 5	79-00-5 0.768	127-18-4 0.858	591-78-6 PQL = 50	124-48-1 0.521	108-90-7 160	100-41-4 800	1330-20-7 16000	95-47-6 16000
		<i>Trans-1,3- Dichloro- propene</i>	<i>1,1,2- trichloro- ethane</i>	<i>PCE</i>	<i>2-Hexanone</i>	<i>Dibromo- chloro- methane</i>	<i>Chloro- benzene</i>	<i>Ethyl- benzene</i>	<i>m,p-Xylenes</i>	<i>o-Xylene</i>
Well Number	Sample Date	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)
CP-103A	10/11/96	<1	<1	<1	<5	<1	<1	<1	<1	<1
CP-103B	10/15/96	<1	<1	<1	<5	<1	<1	<1	<1	<1
CP-104A	10/15/96	<1	<1	<1	<5	<1	<1	<1	3.5	1.3
CP-104B	10/15/96	<1	<1	<1	<5	<1	<1	<1	<1	<1
CP-106A	10/10/96	<1	<1	<1	<5	<1	<1	<1	<1	<1
CP-106B	10/10/96	<1	<1	<1	<5	<1	<1	<1	<1	<1
CP-107	10/15/96	<1	<1	<1	<5	<1	<1	<1	<1	<1
CP-108A	10/11/96	<1	<1	<1	<5	<1	<1	<1	<1	<1
CP-108B	10/11/96	<1	<1	<1	<5	<1	<1	<1	<1	<1
CP-109	10/8/96	<1	<1	<1	<5	<1	<1	3.9	7.5	3.1
CP-110	10/8/96	<1	<1	<1	<5	<1	<1	<1	<1	<1
CP-111	10/11/96	<1	<1	<1	<5	<1	<1	<1	<1	<1
CP-112	10/9/96	<1	<1	<1	<5	<1	<1	1.2	23	5.2
CP-113	10/9/96	<1	<1	<1	<5	<1	<1	<1	3.7	<1
CP-114	10/11/96	<1	<1	<1	<5	<1	<1	<1	<1	<1
CP-115A	10/15/96	<1	<1	<1	<5	<1	<1	4.2	20	<1
CP-115B	10/15/96	<1	<1	<1	<5	<1	<1	<1	<1	<1
CP-116	10/9/96	<1	<1	<1	<5	<1	<1	4.8	14	16
CP-117	10/9/96	<5	<5	<5	<25	<5	<5	8900	17900	4300
CP-118	10/8/96	<1	<1	<1	<5	<1	<1	5.1	1.6	2.8
CP-119	10/10/96	<1	<1	<1	<5	<1	<1	<1	<1	<1
CP-121	10/11/96	<1	<1	<1	<5	<1	<1	<1	<1	<1
CP-122B	10/10/96	<1	<1	<1	<5	<1	<1	<1	<1	<1
CP-205A	10/10/96	<1	<1	<1	<5	<1	<1	<1	1.2	<1
CP-205B	10/10/96	<1	<1	<1	<5	<1	<1	<1	<1	<1
W-10	10/15/96	<1	<1	<1	<5	<1	<1	<1	<1	<1



**VOCs in Groundwater  
4th Quarter 1996  
Pier 91 Facility**

<i>CAS Number</i> <i>MTCA Method B (ug/l)</i>		<i>100-42-5</i>	<i>75-25-2</i>	<i>79-34-5</i>	<i>541-73-1</i>	<i>106-46-7</i>	<i>95-50-1</i>	<i>95-20-3</i>
		1.46	5.54	0.219	PQL = 10	1.82	7.2	32
				<i>1,1,2,2- tetrachloro- ethane</i>	<i>1,3- Dichloro- benzene</i>	<i>1,4- Dichloro- benzene</i>	<i>1,2- Dichloro- benzene</i>	
<i>Well Number</i>	<i>Sample Date</i>	<i>Styrene (ug/l)</i>	<i>Bromoform (ug/l)</i>	<i>(ug/l)</i>	<i>(ug/l)</i>	<i>(ug/l)</i>	<i>(ug/l)</i>	<i>Naphthalene (ug/l)</i>
CP-103A	10/11/96	<1	<1	<3	<1	<1	<1	<5
CP-103B	10/15/96	<1	<1	<3	<1	<1	<1	<5
CP-104A	10/15/96	<1	<1	<3	<1	<1	<1	<5
CP-104B	10/15/96	<1	<1	<3	<1	<1	<1	<5
CP-106A	10/10/96	<1	<1	<3	<1	<1	<1	<5
CP-106B	10/10/96	<1	<1	<3	<1	<1	<1	<5
CP-107	10/15/96	<1	<1	<3	<1	<1	<1	<5
CP-108A	10/11/96	<1	<1	<3	<1	<1	<1	<5
CP-108B	10/11/96	<1	<1	<3	<1	<1	<1	<5
CP-109	10/8/96	<1	<1	<3	<1	<1	<1	<5
CP-110	10/8/96	<1	<1	<3	<1	<1	<1	<5
CP-111	10/11/96	<1	<1	<3	<1	<1	<1	<5
CP-112	10/9/96	<1	<1	<3	<1	<1	<1	<5
CP-113	10/9/96	<1	<1	<3	<1	<1	<1	<5
CP-114	10/11/96	<1	<1	<3	<1	<1	<1	<5
CP-115A	10/15/96	<1	<1	<3	<1	<1	<1	<5
CP-115B	10/15/96	<1	<1	<3	<1	<1	<1	<5
CP-116	10/9/96	<1	<1	<3	<1	<1	6.3	29
CP-117	10/9/96	<5	<5	<15	<5	<5	<5	50
CP-118	10/8/96	<1	<1	<3	<1	<1	<1	11
CP-119	10/10/96	<1	<1	<3	<1	<1	<1	<5
CP-121	10/11/96	<1	<1	<3	<1	<1	<1	<5
CP-122B	10/10/96	<1	<1	<3	<1	<1	<1	<5
CP-205A	10/10/96	<1	<1	<3	<1	<1	<1	<5
CP-205B	10/10/96	<1	<1	<3	<1	<1	<1	<5
W-10	10/15/96	<1	<1	<3	<1	<1	<1	24